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FROM

*Peabody Museum*  
*Salem*





**Pocket List of Mammals**  
OF  
**EASTERN MASSACHUSETTS**

BY **EMERSON BROWN**  
In Charge of Mammals  
**PEABODY MUSEUM,  
SALEM, MASS.**



*With the compliments of*

•  
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**Salem, Massachusetts.**







GROUP OF HARBOR SEALS IN BOSTON SOCIETY OF NATURAL HISTORY BY C. EMERSON BROWN.  
From Sand Dunes and Salt Marshes by Charles W. Townsend, M. D.

# A POCKET LIST

OF THE

# Mammals of Eastern Massachusetts

WITH ESPECIAL REFERENCE TO

ESSEX COUNTY

BY

C. EMERSON BROWN

In Charge of Vertebrates, Peabody Museum, Salem, Mass.

Taxidermist to Boston Society of Natural History, Boston, Mass.

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## PREFACE.

The study of Mammals in the field is one of the most interesting pursuits to a student of Natural History and it is only by very careful and persistent work that one can become at all proficient in it. Many of the Mammals do not come out at all in the day time, and those that do, move about so noiselessly that they are seldom seen except by the trained eye. Their signs, however, are always present and by closely studying them one may learn much of their habits and consequently be enabled to see them much more frequently. A walk in winter after a light fall of snow is doubly interesting, for then from the tiny shrew to the Antlered Buck all are on the move and their tracks may be plainly recognized and easily followed. At such a time one is surprised at the great number of tracks to be found. I have walked through the woods late in the fall without seeing a mammal of any kind and the next day after a snow have taken the same walk and found the snow literally covered with tracks.

In this list I have made no attempt at full description. Most of the species I have either described in part or compared with others to render identification easy. I have included in it several species which, although they have not been actually taken within the county limits, doubtless live here. It is hoped that this list may create an interest in the Essex County collection, and that it may be the means of adding many new specimens to the museum. A list of desiderata is added at the end of this list, and any specimens therein named will be very gratefully received and acknowledged.

In the making of this list I am greatly indebted to Dr. Glover M. Allen for his kindness in looking it over and for many helpful suggestions and to Professor E. S. Morse for revising manuscript.

# MAMMALIA.

## Order Cetacea.

### Whales, Porpoises, and Dolphins.

This group of mammals living wholly in the water as they do have become so modified that there is very little resemblance externally to the class of animals to which they belong. And they are continually confused with the fishes by a great many people. Mammals of this order are seldom seen and not easily recognized. They are entirely carnivorous, their food consisting of fishes, mollusks and crustaceans. They often travel in "schools," sometimes containing hundreds of individuals.

#### FAMILY BALAENIDAE.

**Right Whale; Black Whale; Nord-Caper,**  
*Eubalaena glacialis* (Bonnaterre).

This whale is of large size, a full grown specimen measuring 50 to 60 ft. The head is nearly equal to 1-3 of the total length. Color black, sometimes varied with white beneath. They have no fin on the back which serves to distinguish them from the Finback or Humpback. Its range is the North Atlantic Ocean, and although there is no definite record of this species having been captured within the county limits, it no doubt occurs off shore. Scammon states that the Right Whale sometimes yields 130 bbls. of oil and 1550 lbs. of whalebone.\* See Plate 1.

**Humpback Whale.** *Megaptera nodosa* (Bonnaterre).

This whale has been seen off Marblehead. It occurs rarely. Description in a general way much like the Finback, except back strongly convexed, flippers very long and scalloped on edge, color black above, white beneath. See Plate 1.

\*Marine Mammals and Whale Fisheries, p. 66.



**Little piked whale.** *Balaenoptera acuto-rostrata*  
Lacepede.

Length from 10 to 35 ft. Easily recognized by its small size, large head, presence of "whale-bone" in the mouth. Deep longitudinal furrows on throat. Color black above, pinkish-white beneath, a white band around the flippers 5 or 6 in. wide. Often taken for a young right whale. The only record for the county is an imperfect skull dredged up at Pigeon Cove in 1881 and sent to the National Museum at Washington, D. C. In August, 1910, a specimen came ashore at Provincetown. A cast of this specimen is now on exhibition at the Boston Society of Natural History. See Plate 2.

**Common Finback whale; Finback.** *Balaenoptera physalus* (Linne).

Common off our coast. Length 40 to 50 feet. Head equal or rather less than 1-4 the total length. A fleshy dorsal fin is present. Color black above, white beneath, and mottled on the side. It is said to be a more active and rapid swimmer than the Right Whale. See Plate 1.

**Sulphur-bottom; Blue Whale.** *Balaenoptera musculus* (Linne).

This is the giant of all whales. Length 70 to 90 feet. It is a pelagic species and is usually seen well off shore. Color brownish gray above, sulphur yellow beneath. The Dorsal fin lies well back and is very small and thin. The only record is of one which was cast ashore on King's Beach at Lynn.\* See Plate 2.

FAMILY PHYSETERIDAE.

**Sperm whale; Cachalot.** *Physeter macrocephalus* (Linne).

Color brownish black above, lighter below. This species probably occurs rarely off the coast. It is one of our largest whales, a full grown specimen measuring from 60 to 80 ft. Head oblong, level with back, square and trun-

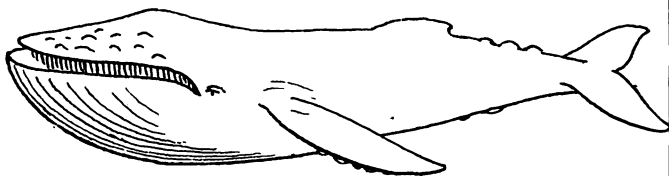
\*Felt's History of Lynn and Salem.



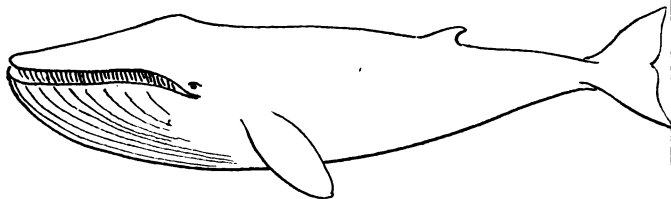
PLATE 1



Right Whale Length 50 to 60 ft.

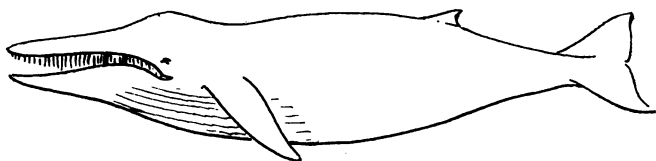


Humpback Whale Length 40 to 50 ft.



Fin-back Whale Length 40 to 50 ft.

PLATE 2



Little Piked Whale Length 10 to 35 ft.



Sulphur-bottom Whale Length 70 to 90 ft.



White Whale Length 10 to 12 ft.





ton Society of Natural History. I believe the only other specimen ever taken and recorded on the Atlantic Coast was at Nantucket, Mass. in 1867.

#### FAMILY DELPHINIDAE.

**White whale.** *Delphinapterus leucas* (Pallas).

Length of adult 10 or 11 feet. Head rounded, neck visibly narrowed. Flipper small. No fin on back. Color of adult entirely white, immature mottled with gray. A very rare straggler from the North; one record only. One seen by Dr. C. W. Townsend off the end of Cape Ann on Nov. 13, 1904.\* See Plate 2.

**Killer Whale; Orca.** *Orcinus orca* (Linne).

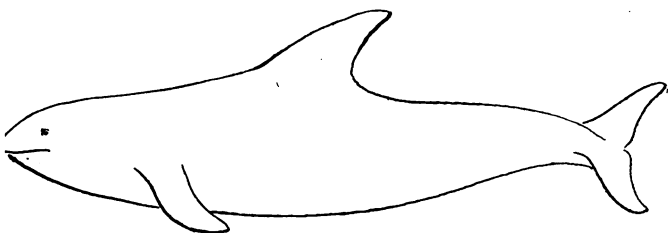
Length, 15 to 20 feet. Forehead flat, color, Black above, White beneath, in strong contrast; back fin extremely long, sometimes reaching the length of 6 feet in the males; flippers rather short and rounded. A white spot above the eye and two white stripes on the sides. There is no record for Essex County, but they have been reported in Massachusetts Bay.

**Blackfish; Social whale; Pilot whale.** *Globicephala melas* (Traill).

This species usually travels in large schools, sometimes numbering two or three hundred. A large school was sighted off Monument Beach in September, 1907. The school was surrounded by boats and driven into shallow water where a number of them were killed. This school contained about 45 individuals, of one of which I made a cast which measured 14 feet in length and was an average sized specimen. The record for the county is of a specimen taken in Beverly Harbor, October, 1873 by Capt. C. C. Os-good and J. W. Larrabee. The skeleton of this is on exhibition in the Peabody Museum. Description: Teeth, 10 in each jaw. Color black on back, a small area of white beneath which varies greatly in size and shape. Easily identified by small size, extra long flipper and its numerous teeth. See Plate 4.

\*See Townsend's Birds of Essex County.

PLATE 3



Grampus Length 10 to 12 ft.



Sperm Whale Length 60 to 80 ft.



Common Dolphin Length 7 ft.





**Grampus; Cowfish.** *Grampus griseus* (Cuvier).

This species probably occurs off our coast. Length 10 feet. In general shape, very much like the Blackfish, but color dark gray above, lighter beneath, irregular lighter stripes on sides. Teeth on upper jaw entirely absent, 6 to 14 on lower jaw. Habitat: off North Atlantic Coast south to New Jersey. See Plate 3.

**Common harbor porpoise; Puffing pig.** *Phocaena phocaena* (Linne).

Length of full grown specimen about 5 feet. Very common off our coast and in the harbors, travelling in small schools, coming often to the surface and making a sort of rolling dive, exposing the back and dorsal fin. Head rounded in front, no beak. Color black on back, shading gradually to white on belly. Sides tinged with pinkish. A dark band from lower jaw to front of flipper. Teeth 26 in each jaw. Range North Atlantic south to New Jersey. See Plate 4.

**Striped Dolphin; Skunk porpoise.** *Lagenorhynchus acutus* (Gray).

Length 8 feet. Teeth 35 above, 37 below. Beak extremely short. Color black on back. Sides with white and yellowish patches. A narrow stripe from base of tail half way to middle of body. Black line around eye extending to snout and flipper. Range North Atlantic south to Cape Cod.

**Common dolphin; Ring-eyed porpoise; Sea porpoise.** *Delphinus delphis* Linne.

This is a pelagic species and is seldom found near the shore. It is about 7 feet long when full grown and has a long narrow beak. The color is black above, several curved stripes on sides, a narrow black line around the eye extending to the beak. Teeth 47 to 50 above, 46 to 51 below. See Plate 3.

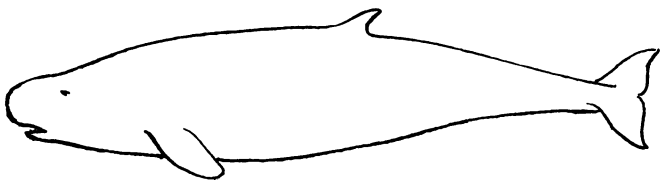
**Bottle-nose porpoise.** *Tursiops truncatus* (Montagu).

Not common. Color dark gray above shading gradually to pure white on under parts. Migratory and travels in schools. Teeth 22 in each jaw. Range North Atlantic coast, Maine to Florida.

PLATE 4



Black-fish Length 10 to 12 ft.



Pygmy Sperm Whale Length 10 to 15 ft.



Harbor Porpoise Length 5 ft.





## Order Ungulata.

### Hoofed Animals.

#### FAMILY CERVIDAE.

**Northern Virginia deer.** *Odocoileus virginianus borealis* (Miller).

Common in the county years past. On Dec. 29, 1739 the town of Newbury chose two persons to prosecute any one killing a buck, doe, or fawn deer contrary to law.\* On Feb. 6, 1747 three deer went through Stephen Morse's land and disappeared in Amesbury.† Felt's History of Ipswich of 1884 states that deer were found in Ipswich as late as 1790. The period following they became very scarce, if not entirely driven out; but in the last few years they began to work back into the county until at the present time they are common. Within the past two or three years I have seen a number of them at Ipswich Beach, also at Beverly, Lynn and Topsfield, and they have been reported from all over the county, in some parts doing considerable damage to the farmers' crops. In 1912 they were so plentiful that there was an open season on them for one week in November.

**Moose.** *Alce americanus* (Clinton).

I include this animal in the Essex County list on the authority of Coffin's History of Newbury of 1845, p. 203, which says, "On November 25, 1733 a 'Mosse' 7 feet high was killed in Salisbury."

\*Coffin's History of Newbury, 1845, p. 208.

†Coffin's History of Newbury, 1845, p. 218.



## Order Rodentia.

### Rodents, or Gnawing Animals.

#### FAMILY SCIURIDÆ.

**Northern gray squirrel.** *Sciurus carolinensis leucotis* (Gapper).

Very common and increasing in number. The best opportunities for studying the habits of gray squirrels are to be found in the towns and villages. Being protected by law and the fact of their seeking the society of man in settled districts, they are seldom shot at and have become very tame. Unlike the Red Squirrel they do not inhabit the deep woods, but have wisely chosen their homes in civilized communities. They live in hollow trees, holes in barns or other buildings, where they build their nests of leaves and raise their families. In summer they make nests of sticks and leaves in the tops of trees or take possession of an old crow's or hawk's nest and roof it over with leaves for a summer home. The young, however, three or four in number, are usually born in the winter nests.

**Southern red squirrel; Southern chickaree.**  
*Sciurus hudsonicus loquax* Bangs.

This mischievous and extremely noisy little beast is very common in the deep woods, and can be seen at most any season of the year busily engaged in building nests, laying up stores, etc. Their food consists principally of nuts, acorns and seeds of the pine cones. In the early summer, while the young are still unable to take care of themselves, the old ones begin cutting off the green cones of the white pine and storing them under the leaves and pine needles to be dug up in the winter, and opened for the seeds which they contain. I once spent half an hour investigating the cause of a continual steady dropping at regular intervals of some hard objects, and found it to be two Red Squirrels in



the very topmost branches of a tall pine throwing down the green cones. Another time I found in a bureau drawer in a deserted camp in Maine over two quarts of hazel nuts all nicely shelled and piled up. They usually build their nests in hollow trees. An old apple tree in or near a pine wood is a favorite place. They also build a "summer nest" of cedar bark, moss, and pine needles, often in a cedar tree. Sometimes they take possession of an old crow's or hawk's nest, and roof it over after the manner of the Gray Squirrel. The young, usually four in number, are born early in the spring.

**Chipmunk ; Lyster's chipmunk; Ground Squirrel ; Striped Squirrel.** *Tamias striatus lysteri*. (Richardson).

Common in the country along stone walls and among rocks, living in burrows in the ground, digging a tunnel nearly straight down several feet, then turning and continuing horizontally for a few yards more ; the tunnel then ascends a trifle into a chamber about a foot in diameter, the floor of which is usually covered with soft moss and grasses. An emergency exit to the surface by a shorter route is also made. The entrance is placed at the root of a stump or tree, or under a stone wall, hidden from view and hard to locate unless disclosed by the animals themselves. Even if in an open spot it is difficult to find as no sign of dirt is thrown up to mark the entrance. In winter they hibernate until April or May. In the early Spring the wintergreen berries are a favorite food.

**Woodchuck ; Ground hog.** *Marmota monax* (Linne).

Very common in fields and open woodlands throughout the county. They live in burrows and hibernate in the winter months, going into their dens about the first of November and although there is an old legend to the effect that they come out on "Candlemas" day and if they see their shadow, return to sleep another month, they do not usually come out until sometime in March. Toward night-fall they may be seen in almost any field in the country, sitting up beside their burrows or feeding near by. They seldom venture away so far but what upon the first warn-



ing of danger they can quickly reach their holes. About the only animal that woodchucks have to fear is the fox, and from them they are never safe, not even in their burrows. They are, however, an enemy of the farmer, and in 1734 a premium of £1 per dozen was offered by the town of Ipswich for them.\*

**Canadian flying squirrel.** *Sciuropterus sabrinus macrotis* Mearns.

Uncommon. Living in the deep forests and being of nocturnal habits this interesting little mammal is seldom seen. Their home is in a hole, usually in a dead tree, sometimes in a deserted woodpecker's hole. They are timid animals and easily frightened away. Although they sleep more or less during the winter months I believe they are active throughout the year and do not hibernate. They may be distinguished from the southern variety by their larger size, redder back, black ring around the eye, and the fur, if blown into or separated, shows a dark color to the roots.

**Southern flying squirrel.** *Sciuropterus volans* (Linne).

This species, which is much more common than the above, lives more in open woodlands, and I once knew one to make its nest in a bird house in a friend's yard. They are somewhat smaller, no ring around the eye, and the base of the hairs are white.

#### FAMILY CASTORIDAE.

**Beaver.** *Castor canadensis* Kuhl.

Extinct in the state, formerly living in Essex County.

That the Beaver once made its home and built its dam on our ponds and streams is a matter of tradition; for although it is spoken of in some of the older histories, I am unable at the present time to find any definite records of their having been taken. And unfortunately no specimens were preserved.

I have heard my uncle speak of seeing them at Beaver Pond, Beverly and they doubtless lived there in years past.

\*Felt's History of Ipswich, 1834, p. 44.



The City of Beverly was I believe, named from the Town of "Beverly," England (near Hull) and means the Leigh of the Beaver, Leigh meaning a Marsh or Bog or in other words "Beaver Leigh" (modified to "Beverly") meaning a Beaver Marsh or Bog.

#### FAMILY MURIDÆ.

**Common house mouse.** *Mus musculus* Linne.

An introduced species, very common in buildings and sometimes in fields. As nearly every one is familiar with this little pest a description is unnecessary.

**Norway rat; Brown rat; Wharf rat.** *Epimys norvegicus* Erxleben.

Color dark grayish brown. They sometimes grow to a very large size and become dangerous if cornered. The young are much darker, sometimes nearly black. An introduced species, very common around barns and in the neighborhood of wharves, beaches, and freight yards.

**Black rat.** *Epimys rattus* (Linne).

Introduced. Uncommon about houses and barns in the country.

**Eastern white footed mouse; Deer mouse; Wood mouse.** *Peromyscus leucopus noveboracensis* (Fischer).

This interesting little mouse is very common throughout the county. It is the most beautiful of all our mice, especially in its winter coat when their fur is bright fawn color above and pure white beneath, the white of the under side reaching well up on the shoulders, and the line of separation being straight and clean cut. The young are light slaty gray in color, and I have taken full grown specimens varying from light gray to bright reddish fawn color at the same season of the year. They have wonderfully large, bright eyes, which grow much larger if the animal is frightened. I once drove one out of its nest onto a



slender branch overhanging the water, and as it clung there its eyes seemed on the point of popping out. They build a nest of fine bark, grass, etc., sometimes in a hole in a tree, sometimes on the ground under the roots, and at times appropriate the nests of song birds and fit them up much the same as the squirrels do the nests of crows and hawks. They usually have four young, very small and helpless, with slate-colored bodies and no hair. As they are largely nocturnal in their habits, they are seldom seen in the daytime, except when disturbed from their nests. At such times they are quite tame.

**Eastern red-backed mouse.** *Eutamias gapperi ochraceus* Miller.

Rare, one taken at Ipswich and one at Methuen was the record of the county until 1912. Then several were taken at Essex by W. S. Brooks and myself. This little mouse, though very much like the Meadow Mouse in size and shape, is easily identified by its longer tail, and the bright chestnut color of the back. It lives in cool, damp woods and swamps, and it is probable that it is not so rare as has been supposed, as it would not be likely to be seen or taken unless especially sought. The young lack the rusty red tints.

**Meadow mouse; Meadow vole; Field mouse.** *Microtus pennsylvanicus* (Ord).

Color, dark brown above sometimes with a very slight reddish tinge shading to gray on the under side. Common in grassy fields and marshes. If hard pushed, they take readily to the water and swim well. They build a nest of dried grass under a rock or old log on the uplands. This nest looks like a pile of dead grass and is about 5 or 6 inches in diameter. Their path to it is made by gnawing off the grass close down to the roots, and is about an inch or more in width, the grass bending over enough to meet overhead and form a tunnel. They also dig burrows five or six inches deep, having nests of fine dried grasses at the bottom where the young are born.



**Muskrat; Musquash. *Fiber zibethicus* (Linne).**

Abundant along streams, lakes, ponds and marshes. This interesting and inoffensive animal, although persistently hunted for its fur, still refuses to be driven away by the approach of civilization. A favorite place for them is along the Ipswich River, and in the fall their houses can be seen in process of construction. These houses are composed of mud, sticks and grass, and appear like large mounds. They are built in the grass on the riverbank, with the entrance usually under water and extending upward to a chamber which is above the water line. They vary in height from two to three or four feet. In summer the muskrats live in holes in the banks, where the young are born, usually in May or June. Their fur is greatly in demand, and unless measures are taken to protect them, it will not be long before the species will be a thing of the past in this county.

**Cooper's lemming mouse; Bog lemming. *Synaptomys cooperi* Baird.**

There is no absolute record of this mouse having been taken in the county, but I have included it as without doubt it lives here. The records of their having been taken in the State are at Plymouth and Wareham by Mr. O. Bangs.<sup>1</sup> It is almost never seen and is very difficult to trap. It makes its home in cool sphagnum bogs and swampy woods. Description is as follows: tail very short, color light brown with many black hairs interspersed, some specimens with a slight tinge of reddish brown, others somewhat grayer; ears very short, hidden in the hair; upper front teeth grooved; mammae six. In appearance it closely resembles the common field mouse, with which it frequently associates and could easily be taken for it. It can, however, always be recognized by its grooved front teeth.

<sup>1</sup>Proceedings of Biological Society, Vol. 9, Page 101.



## FAMILY ZAPODIDAE.

**Hudson Bay jumping mouse.** *Zapus hudsonius*  
(Zimmerman).

Rather uncommon, but not rare in the county. They are very tame, and I have almost put my hand on one before it moved; then it went bounding over the grass with long, kangaroo-like jumps. Apparently they never have any definite direction, are as likely to leap towards one as away, and can often be caught in the hands. They are readily identified by their bright yellowish fawn-color and their extremely long hind legs and tail. They are usually found in grassy meadows and swamps.

## FAMILY LEPORIDAE.

**Eastern varying hare; White rabbit.** *Lepus americanus virginianus* (Harlan).

Uncommon. One specimen in the Peabody Museum taken by C. A. Loud at Hamilton, Feb. 8, 1888. Easily distinguished from the cotton-tail by its large size and very long hind legs. Color pure white in winter, dark brown in summer, and mottled brown and white in fall and spring.

**Northern cotton-tail; Gray rabbit; Coney.** *Sylvilagus transitionalis* (Bangs).

Very common. In June the female makes a nest and the young are born in it. They soon leave it, however, and are often found in mowing fields in July and August. They prefer brier grown patches in which they hide and which are a protection against hawks, etc. In the fall they are persistently hunted with hounds and often resort to an old woodchuck burrow, where they are easily dug out by the relentless hunters.



## FAMILY PHOCIDAE.

**Harp seal; Saddle-back.** *Phoca groenlandica* Erxleben.

Color of adult male grayish white, face black and a black band on the side which meets over the shoulders and tail. Females variously mottled. First and second toe of front flipper about equal in length. Total length of adult about 5 feet. Very rare from the northern seas. One record only for the county and the state. One taken at Nahant, the skeleton of which is in the Museum of Comparative Zoology at Cambridge, Mass., labeled, Nahant, L. Agassiz<sup>1</sup>.

**Harbor seal; Sea-dog.** *Phoca vitulina concolor*, Dekay.

Very common off the coast. They can often be seen on the Rocky Islands in Salem Harbor, and almost any time off Ipswich Beach and in the Essex River. As soon as the tide goes down enough, they come out of the water onto the sand bars, where they lie sunning themselves until the tide comes in and covers the bars. With very little instinctive fear of man, they are by nature gentle and affectionate, quickly become tame if well treated, and are very intelligent; yet they are persistently shot at by gunners and fishermen at every opportunity. In fact a bounty of two dollars has recently been offered for their tails as a further inducement to shoot them, and a price put on their skins. The harm seals do to fishermen is of comparatively small account. They should, it seems to me, be protected by law, and with this protection they would soon become a common feature of our shores.

**Hooded seal; Crested seal.** *Cystophora cristata* (Erxleben).

Length, 7 feet. Head of male with a large moveable bag extending from the nose to behind the ear. Color, bluish black above, lighter beneath, varied with whitish spots. Distinguished from other seals by the number of teeth, which are four above and two below, instead of six above

<sup>1</sup> Allen's N. A., Pinnipeds, page 640.



and four below as in other seals. A very rare straggler from the north. One record, specimen taken at Newburyport, Mass., May 22, 1882, and sent to the Museum at Charleston, S. C. It was taken by E. C. Greenwood.

#### FAMILY FELIDÆ.

**Adirondack cougar; Puma; Panther.** *Felis cougar*, Kerr.

Extirpated in county and in New England states. One kitten taken in Lynn woods by Jos. Williams, 1768<sup>1</sup>, and one seen at Cape Ann<sup>2</sup>, are the only records.

1 Lewis: History of Lynn, 1829, p. 169.

2 Felts: History of Salem, Vol. 1. p. 120.

**Bay lynx; Bobcat; Wildcat.** *Lynx rufus* (Guldenstadt).

Practically extirpated in the county. One taken at Danvers, Jan. 21, 1821, and one in Lynnfield in 1832 by Eben Aborn, both of which are now in the collection of the Peabody Museum, these are very badly mounted owing to ignorance in the art of taxidermy. There is also a record of one killed in Front St., Salem, Jan. 1821, and of one killed in 1700 by Rev. Mr. Green.<sup>1</sup> In 1770 wildcats were plentiful and had been for years previously and a bounty was paid for them by the town of Boxford.<sup>2</sup> There are still a few in the western parts of the state.

1 Felt's Annals of Salem, 1845, p. 518.

2 Perley's History of Boxford, 1880, p. 248.

#### FAMILY CANIDÆ.

**Red fox; Cross fox; Black fox.** *Vulpes fulvus* (Desmarest).

Very common, living in burrows in the woodlands and fields. Many of our mammals have been driven out by the advance of civilization but the fox apparently holds his own, and although persistently hunted with dogs there are now large tracts owned by individuals who will not



permit hunting, and on many of these tracts the foxes rear their young in perfect safety. The fox of the present has learned a great deal of the ways of man and is quick to learn and avoid new dangers. The town of Rowley early paid a bounty for foxes, in 1666, 2s. 6d. per head was paid.

- 1 Gage's History of Rowley, 1840, p. 405.

Between 1698 and 1722 there were killed 428 foxes in the woods of Lynn<sup>1</sup>. In 1748 the town of Beverly voted a bounty of 20s to be paid for all old foxes and 10s for young. In 1678 the town of Ipswich paid out £3, 10s for 70 of them.<sup>3</sup>

- 1 Lewis's History of Lynn, 1829, p. 155.
- 2 Stone's History of Beverly, 1843, p. 318.
- 3 Felt's History of Ipswich, 1834, p. 43.

### Gray Wolf; Timber wolf. *Canis lycaon* (Schreber).

Expired in past century, although apparently plentiful at one time. In 1631 a bounty was offered for them in Lynn<sup>1</sup>. In 1640 a reward of 40s for every wolf head was offered at Salem<sup>2</sup>. In 1644 the town of Newbury offered 10s for every one killed with hounds, and if trapped or taken otherwise, 5s was offered. The head must be brought to the Meeting House and nailed to it<sup>3</sup>. In 1644 the town of Wenham offered a bounty of 20s to any one killing a wolf. Between 1752 and 1757 they were very numerous and troublesome, and in 1754 the town voted to give £6-1-18 in addition to previous bounty for killing a wolf.<sup>4</sup> In 1644 wolves were very troublesome in Haverhill, and in 1663 the town offered 40s for every one taken. In 1716 five full grown ones were taken here.<sup>5</sup> In 1669 the town of Rowley gave a bounty of 20s per head to any inhabitant killing a wolf. The colony gave a bounty of 40s for each one killed. In 1661 certain gentlemen were authorized to build pens to catch wolves.<sup>6</sup>

- 1 Lewis' History of Lynn, p. 37.
- 2 Felt's History of Salem, p. 128.
- 3 Coffin's History of Newbury, 1845, p. 42.
- 4 Allen's History of Wenham, 1800, p. 30.
- 5 Chase's History of Haverhill, 1861.
- 6 Gage's History of Rowley, 1840.



In 1678 John Edward was allowed £3 for killing 3 wolves.<sup>1</sup> In 1687 the town of Haverhill offered 15s for every full grown wolf, and 7/6 for every young one.<sup>2</sup> In 1698, 20s was allowed for each full grown wolf at Lynn.<sup>3</sup> In 1695 the town of Andover voted 20s for every wolf caught and brought to the constable.<sup>4</sup> In Gloucester in 1707 Ezekiel Woodward killed three wolves, and in 1713 John Lane was paid £1 10s for a full grown wolf; in 1754 the town allowed £4 for grown wolves and £2 for young ones.<sup>5</sup>

1 Stone's History of Beverly, 1848. p. 316.

2 Chase's History of Haverhill. 1861, p. 147.

3 Lewis' History of Lynn, 1829, p. 145.

4 Abbott's History of Andover, 1829, p. 51.

5 Babson's History of Gloucester, 1860, p. 204.

#### FAMILY MUSTELIDÆ.

##### Otter. *Lutra canadensis* (Schreber).

Very rare in the county. Found usually along streams and lakes near the seacoast. Otters are graceful swimmers; they glide swiftly through the water, and will outswim and catch fish in spite of all their rapid twisting and darting. An old female will take the most solicitous care of her young and defend them even with her life. They live almost entirely on fish.

##### Eastern skunk. *Mephitis putida* (G. Cuvier).

Common in open woodlands and fields in the rural districts. Seldom seen in the daytime. The young are born early in the spring and by the last of May or the first of June are led forth by the old ones to receive their first lesson in the art of procuring a living. And it is not uncommon at this time to see an adult in the late afternoon moving leisurely along followed by four or five young ones in single file or with the young crowding so close around the female as to appear at a distance like one. They are rather beneficial around barns living largely on mice, rats and reptiles. But they do not hesitate to make a meal off of chickens or eggs if temptation is placed in their way. As a weapon of defense they have the power of emitting a powerful odor but seldom use it unless disturbed or badly



frightened. They become very tame in captivity and there is rarely any odor from them if kindly treated.

**Large brown mink.** *Putorius vison lutreoccephalus* (Harlan).

Not uncommon on the coast. The females construct nests inside a log or among the rocks usually near a stream and well hidden in the grass or thick bulrushes. Not strictly a nocturnal or diurnal mammal, but after a hearty meal they will turn in and sleep: upon awakening they will start out on another hunt, not seeming to care whether it is broad daylight or midnight.

**Little brown weasel.** *Putorius cicognanii* (Bonaparte).

Length, male about 11 in. Female about 9 in. Not uncommon in open rocky places and in stone walls on edge of woods. They appear suddenly as if from nowhere, sometimes within a few feet of you,—seemingly not at all afraid of man—and disappear again quickly and quietly as if into space. Color, white in winter, brown above in summer, and a mixture of brown and white in spring and fall. They make their nests in the roots of hollow trees, or sometimes take possession of the chipmunk or woodchuck burrows. They go on long hunts, sometimes for a week or two, at times travelling miles in a single night.

**New York weasel.** *Putorius noveboracensis* Emmons.

Length of male about 16 in. Female 13 in. In woods, sometimes near houses. This is a larger form than *P. cicognanii*, though its habits are much the same. It is rather uncommon in the county.

#### FAMILY PROCYONIDÆ.

**Raccoon; Coon.** *Procyon lotor* (Linne).

Rare in the county. Found in deciduous and mixed woods. They make their nests and have their young in hollow trees. Sometimes they make use of the nests of hawks and owls to sleep in. At other times they hang up



in the crotch of a tree within a short distance of the top invisible from below and here they sleep comfortably and safe from their enemies. The young from 3 to 6 in number are born sometime in April or May. They remain with the parent for at least a season, and when the old ones leave them for any length of time their crying is said to closely resemble that of an infant.

#### FAMILY URSIDÆ.

##### **Black bear.** *Ursus americanus* Pallas.

Extirpated in the county. In Lewis' History of Lynn, (p. 36) there is an account of an early settler having a fight with a bear. Felt's Annals of Salem, (p. 267) states that in 1699 they were very common in the woods, and were occasionally seen for sixty years after. In 1759 a bear weighing 400 lbs. was killed in the Lynn Woods: Lewis and Newhall's History of Lynn, 1865, p. 382. Felt's History of Ipswich of 1884 also speaks of their being found in Ipswich Bear Swamp; and Crowell's History of Essex, 1868, speaks of the encounter of a Burnham boy, who finally choked an old bear with a pine knot.



## Order Insectivora.

### FAMILY SORICIDÆ.

**Common long-tailed shrew; Masked shrew. *Sorex personatus*, I. Geoffroy.**

Common locally. Dr. G. M. Allen and Dr. C. W. Townsend found it at Ipswich Beach. This tiny mamma! can hardly be compared with any other in this vicinity. It is 3.71 inches long, very slender, with long pointed nose and extremely long "whiskers." Dark brown above, shading to gray on under side. They look very tiny when compared with any of the mice. Their food consists mostly of insects which they hunt persistently winter and summer generally along the edge of streams. They, (like all the small insectivora) sometimes find the summer drought too much for them and many die from thirst at this time. They are usually found beneath old boards or logs. Dr. Merriam, speaking of their voracious habits, states that he—"Once confined three of them under an ordinary tumbler. Almost immediately they began fighting, and in a few moments one was slaughtered and eaten by the other two; before night one of these killed and ate the other. Hence in less than eight hours one of these tiny beasts had consumed two of its own species, each as large and heavy as itself." The following quotation from *American Mammals* by Stone & Cram is of interest in this connection. "If one is sitting quietly in the woods it sometimes happens that a slight rustling of leaves reaches the ear. There is no sound, but the eye rests on a fallen leaf that seems to move. Presently another turns completely over. Then something evanescent like the shadow of an embryonic mouse appears and vanishes again before the retina can catch the perfect image,—and you have seen a shrew."



**Eastern mole shrew; Large blarina; Eastern short-tailed shrew.** *Blarina brevicauda* (Say).

This is a much larger mammal than the preceding, being about 5 in. long, with stout, short tail. Often mistaken for a true mole, the fore feet, however, serve to distinguish them as they are very small and mouse like while the true moles are very large and flipper like. This is the commonest of our shrews, and might be called abundant in the county. When seen in the daytime they seem rather stupid. While sitting quietly at lunch on an island in the Ipswich river, one came out within three feet of me, and I easily caught him in my hand. They do not hibernate, and may sometimes be seen on the snow even in the coldest weather. They emit a disagreeable musky odor when frightened, which serves as a protection to them from many of their enemies. Cats will sometimes catch them and play with them but I believe never eat them. Foxes also catch them to take home for their young to play with. Found in woods and fields everywhere.

#### FAMILY TALPIDÆ.

**Star-nosed mole; Black mole; Long-tailed mole; Swamp mole.** *Condylura cristata* (Linne).

This is the common mole of the county; it is found in the bottomlands and swamps, usually near some body of water. It is easily recognized by its peculiar star-shaped nose. They make extensive tunnels which can be located by the large piles of black dirt thrown up. They show no fear of the water and are good swimmers. Many of them die in the hot weather when away from the water, probably from thirst.



## Order Chiroptera.

### FAMILY VESPERTILIONIDAE.

**Little brown bat.** *Myotis lucifugus* (LeConte).

Common ; nocturnal, spending the days in caves or hollow trees. Length 3.40 inch. Color dark brown.

**Say's bat ; Little brown bat.** *Myotis subulatus* (Say).

Uncommon. Much like preceding except ears much longer, and the knuckle bones of the hands come on a level with each other across.

**Silver-haired bat.** *Lasionycteris noctivagans* (LeConte).

Probably occurs in the county. Length 4 in. Expanse of wing 9 or 10 in. Fur very dark brown, with silvery-white tips. Ears short and rounded.

**Northern Georgia bat ; Dusky bat.** *Pipistrellus subflavus obscurus* Miller.

To be looked for. Probably occurs. Length 3.40 in. Fur light yellowish brown, mottled with dusky, below uniform yellowish-brown. Has been recorded from the State at Concord, Mass.

**Large brown bat ; House bat.** *Eptesicus fuscus* (Beauvois),

Nocturnal. Spends day in buildings, caves, or on trees. Winters in New England, common in the county. It is about the last to make its appearance in the evening, and does not usually come out until it is too dark to identify. Distinguished from other brown bats by its large size. Length 4.60 in. Expanse of wings 12 in.



**Red bat; New York bat; Tree bat. *Lasiurus borealis* (Muller),**

Not uncommon. Nocturnal, usually hanging up in trees in daytime, and not so often found in caves and buildings. Distinguished by bright rusty red color, always lighter on lower surface. Hair somewhat tipped with white, and a whitish patch in front of each shoulder. Base of wing and whole interfemoral membranes, also base of ears thickly covered with fur. Comes out earlier in the evening than other bats, while it is still quite light, so that its bright color can be readily seen. One of these was caught at Topsfield this year, and it had four young clinging to it. It often (as do other bats) takes its young with it when seeking food. The little ones cling tightly around the mother, and seem to interfere but little with her flying. The bats usually seen about the electric lights in summer belong to this species.

**Hoary bat. *Lasiurus cinereus* (Beauvois).**

Rare. Nocturnal, spending day in trees. Very large, length 5.40 in. Expanse of wing 12 to 15 in. Much larger than Red bat, but with same dense covering of fur over the interfemoral membrane. Color mixed dark brown and yellowish, the brown fur more or less tipped with silvery white, grayish white below. This species is easily identified, even on the wing, by its very large size, sharp, narrow wings, and very swift flight.



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